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Varadi

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[54] **PROCESS AND APPARATUS FOR
OXIDIZING INDUSTRIAL SPENT CAUSTIC
AND EFFECTING GAS-LIQUID MASS
TRANSFER AND SEPARATION**

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[51] Int. Cl.⁵ **C02F 1/74**

[52] U.S. Cl. **210/742; 210/744;
210/758; 210/765; 210/761; 55/228; 95/187;
95/188**

[58] **Field of Search** **210/742, 744, 758, 765,
210/766, 741, 761; 55/228; 95/187, 188, 189**

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[57] **ABSTRACT**

An improved process for oxidizing industrial spent caustic streams, whereby oxidation of spent caustic occurs in a unitary processing tower with three chambers that cooperate simultaneously to oxidize the caustic in the first chamber; to separate the caustic from the oxidizing gas in the second chamber; and, in the third chamber, to pass gas and cooled caustic through a mass transfer apparatus that cools and cleans the gas and releases the caustic and gas into a gas-liquid separation zone of the upper chamber. An alternative embodiment of the invention involves spatially separating the upper chamber from the other two chambers.

20 Claims, 3 Drawing Sheets

